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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/073,022	02/12/2002	Shinichi Kouzuma	32011-178431	3110

7590 12/11/2003  
VOLENTINE FRANCOS, PLLC  
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RESTON, VA 20191

EXAMINER

TRAN, ANH Q

ART UNIT	PAPER NUMBER
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2819

DATE MAILED: 12/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/073,022

Applicant(s)

KOUZUMA, SHINICHI

Examiner

Anh Q. Tran

Art Unit

2819

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 October 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilford (6,020,762).

Regarding claim 1, Wilford shows a level shift circuit (Fig. 4) comprising:

A first transistor circuit (109) which is conductive between a first node (D) and a first power supply line (VDD) when a second node (C) is at a second power supply potential (ground) and is not conductive therebetween when the second node is at a first power supply potential;

A second transistor circuit (105) which is conductive between the second node and the first power supply line when the first node is at the second power supply potential and is not conductive therebetween when the first node is at the first power supply potential;

A third transistor circuit (103) which is conductive between the first node and the second power supply line when an input signal (102) is at a first input potential and is not conductive therebetween when the input signal is at a second input potential;

A fourth transistor circuit (107) which is conductive between the second node and the second power supply line when the input signal is at a second input potential and is not conductive therebetween when the input signal is at the first input potential; and

A fifth transistor circuit (143 and 145) which switches a value of an inflow current or emission current of the second node or the first node according to a control signal (141), when the second node or the first node is conductive to both of the first power supply line and the second power supply line,

wherein the first transistor circuit comprises a first conductive type first transistor one end of which is connected to the first power supply line, an other end of which is connected to the first node, and a control terminal of which is connected to the second node,

the second transistor circuit comprises a first conductive type second transistor one end of which is connected to the first power supply line, an other end of which is connected to the second node, and a control terminal of which is connected to the first node,

the third transistor circuit comprises a second conductive type third transistor one end of which is connected to the second power supply line, an other end of which is connected to the first node, and a control terminal of which has the input signal provided thereto, and

the fourth transistor circuit comprises a second conductive type fourth transistor one end of which is connected to the second power supply line, an other end of which is

connected to the second node, and a control terminal of which has an inverted value of the input signal provided thereto.

Therefore, Wilford discloses the claimed invention except for a second conductive type fifth transistor (143) one end of which is connected to the second power supply line and a control terminal which has the control signal input thereto; and

A second conductive type sixth transistor (145) one end of which is connected to the other end of the fifth transistor, the other end of which is connected to the second node, and a control terminal of which inputs an inverted value of the input signal provided thereto.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to switch location of the transistors, since it has been held that rearranging parts of an invention involves only routing skill in the art. In re Karlson, 136 USPQ 184.

### ***Response to Arguments***

3. Applicant's arguments filed 10/29/03 have been fully considered but they are not persuasive. Applicant argues that "since the sixth transistor of the fifth transistor circuit of claim 1 is arranged between the fifth transistor and the second node, any noise generated by the fifth transistor due to transitions of the control signal is comparatively more remote from the second node, thus suppressing the impact of this noise on the second node". First, this arrangement for suppressing the noise impact on the second noise are not discloses in the disclosure. Second, the fifth and the sixth transistors of Applicant's invention are provided in order to increase the speed of level shift circuit just

as Wilford's fifth and sixth transistors. Because both references' fifth and sixth transistors provide the same function, rearranging the fifth and sixth transistors of an invention would have involved only routine skill in the art.

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Q. Tran whose telephone number is 703-306-4507. The examiner can normally be reached on M-TH (7:00-5:30) Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Tokar can be reached on 703-305-3493. The fax phone number for the organization where this application or proceeding is assigned is 703-308-7724.

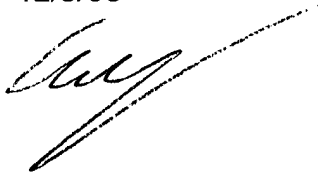
Application/Control Number: 10/073,022

Page 6

Art Unit: 2819

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Anh Tran  
12/8/03

A handwritten signature in black ink, appearing to be 'Anh Tran', written in a cursive style.